

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CA2004/001409

A. CLASSIFICATION OF SUBJECT MATTER

IPC' C07K-14/62, C07K-14/765, A61P-3/10, C07K-1/113, A61K-38/28, A61P-5/50

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC' C07K-14/62

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base, and, where practicable, search terms used)

Canadian Patent Database, EPOQUE, DELPHION, ESP@CENET, CA PLUS

Key words: "insulin derivative", "insulin analog", "insulin analogue", "insulin conjugate", "long lasting", "protracted"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 95 05187 A1 (UNITED MEDICAL & DENTAL SCHOOLS OF GUYS AND ST. THOMAS' HOSPITALS) 23 February 1995 whole document	1, 2, 7, 16-23, 33-38
Y		3-6, 8-15
X	CA 2334859 A1 (KINGS COLLEGE LONDON; DEUTSCHES WOLFFORSCHUNGS INSTITUT) 23 December 1999 whole document	1-3, 7, 16, 18, 19, 21-23, 33-38
Y		4-6, 8-15, 17, 20
X	JONASSEN ET AL. "Fatty acid acylated insulins display protracted action due to binding to serum albumin." In: PEPTIDE SCIENCE: PRESENT AND FUTURE, PROCEEDINGS OF THE INTERNATIONAL PEPTIDE SYMPOSIUM, 1 ST KYOTO, NOV. 30, 1997, (1999), MEETING DATE 1997, pages 674-677. EDITOR: SHIMONISHI, YASUTSUGA. PUBLISHER: KLUWER DORDRECHT, NETH. whole document	1-3, 7, 16-23, 33-38
Y		4-6, 8-15

Further documents are listed in the continuation of Box C.

Patent family members are listed in annex.

* Special categories of cited documents :	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent but published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international-type search
10 November 2004 (10-11-2004)

Date of mailing of the international-type search report
~~10 November 2004 (10-11-2004)~~

21 December 2004

Name and mailing address of the ISA/
Commissioner of Patents
Canadian Patent Office - PCT
Ottawa/Gatineau K1A 0C9
Facsimile No. 1-819-953-9358

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/CA2004/001409

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	BAUDYS ET AL. "Extending insulin action <i>in vivo</i> by conjugation to carboxymethyl dextran." BIOCONJUGATE CHEMISTRY. 1998, vol. 9, pages 176-183 whole document	1-3, 7, 16, 18, 19, 21-23, 33-38
Y		4-6, 8-15, 17, 20
Y	CA2363712 A1 (CONJUCHEM INC.) 23 November 2000 whole document	1-23, 33-38
Y	UCHIO ET AL. "Site specific insulin conjugates with enhanced stability and extended action profile." ADVANCED DRUG DELIVERY REVIEWS 35 (1999), vol. 35(2,3), pages 289-306 whole document	1-23, 33-38
Y	US 6323311 B1 (LIU ET AL.) 27 November 2001	1-23, 33-38
Y	US 3868357 A (SMYTH ET AL.) 25 February 1975	1-23, 33-38
Y	US 3868356 A (SMYTH ET AL.) 25 February 1975	1-23, 33-38
P,X	THIBAudeau ET AL. "Development of novel DAC TM insulin analogues with extended pharmacodynamic profiles." AMERICAN DIABETES ASSOCIATION 64 TH SCIENTIFIC SESSIONS. ABSTRACT 488-P, June 4-8, 2004, ORLANDO, FLORIDA	1-23, 33-38

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CA2004/001409

Box No. II Observations where certain claims were found unsearchable (Continuation of Item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons :

- 1 ☒ Claims Nos. : 24-32
because they relate to subject matter not required to be searched by this Authority, namely:

Claims 24-32 are directed to methods of treatment of the human/animal body. (Article 17(2)(a)(i) and Rule 39.1(iv) PCT)
- 2 ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically :
- 3 ☐ Claims Nos. :
because they are dependant claims and are not drafted in accordance with the second and third sentences of Rule

Box III Observation where unity of invention is lacking (Continuation of Item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows :

- 1 ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
- 2 ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
- 3 ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos. :
- 4 ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos. :

Remark on Protest ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/CA2004/001409

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/CA2004/001409

Continuation of Form PCT/ISA/210 (patent family annex):

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